

Application Serial No. 09/676,162
Amendment dated January 11, 2005
Reply to office action dated November 24, 2004

Remarks/Arguments

This Amendment is being filed in response to the Final Office Action of the Examiner mailed November 24, 2004, setting a three-month shortened statutory period for response ending February 24, 2005. Claims 1-40 remain pending. Claims 41-52 have been canceled without prejudice as being directed toward a non-elected invention.

The undersigned would like to thank the Examiner for the courtesies extended during the telephonic interview on or about January 6, 2005. During that interview, the Examiner further elaborated on the rejections made in the Final Office Action.

In paragraph 2 of the Office Action, the Examiner rejected claim 40 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. During the interview, the Examiner expressed some concern that the meaning of "downs", as it relates to processors, may be unclear. In response, claim 40 has been amended to replace the word "downs" with -- de-activates--, which the Examiner appeared to agree would overcome the 35 U.S.C. § 112, second paragraph, rejection.

In paragraph 5 of the Office Action, the Examiner rejected claims 1-9, 16-26 and 33-40 under 35 U.S.C. § 102(b) as being anticipated by Campbell et al. (U.S. Patent No. 5,365,587). In paragraph 10 of the Office Action, the Examiner stated that the phrase "before a next time the data processing is powered up" does not add any limitation to the claims. The Examiner further stated that anything done on a computer is done before a next time it is powered up, as long as it will be powered up at any point in time in the future. The Examiner also stated that the claims fail to recite that the computer is either in

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a powered down state, that the changes will take place when the computer is next powered up, or that the changes will remain at the next power up.

Applicants must respectfully disagree. Claim 1 recites "increasing the performance level of the data processing system in accordance with the second authorization key before a next time the data processing system is powered up. In Applicants view, there is only one next time the data processing is powered up. This language was discussed during the above-referenced interview, and to improve the clarity, claim 1 has been amended to recite:

increasing the processing performance level of the data processing system in accordance with the second authorization key without having to reboot ~~before a next time the data processing system is powered up.~~

As can be seen, claim 1 now recites increasing the processing performance level of the data processing system in accordance with the second authorization key without having to reboot ~~the data processing system is powered up.~~

In contrast to the foregoing, Campbell et al. states:

Upon reference to the foregoing those skilled in the art will appreciate that by providing selected "personality" data within nonvolatile storage devices within a data processing system and accessing that data each time power is applied to the data processing system, the content of a personality register may be controlled which may then be utilized to enable and/or disable various functional characteristics of the data processing system, permitting the manufacturer to provide a variety of functional characteristic capabilities within a single data processing system, without physical or mechanical manipulation.

(Emphasis Added)(Campbell et al., column 9, lines 54-65). As can be seen, Campbell et al. appear to teach that the "functional characteristics" of the data processing system are only changed upon power up of the data processing system (e.g. reboot). Such a system, however, may not provide some of the advantages of the present invention - such as providing uninterrupted growth capacity, temporary increased processing capacity to

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support high demand peak periods, and disaster recovery support should a primary data processing system become destroyed - at least not to the same degree as the present invention.

In addition, and as the Examiner noted in paragraph 10 of the Office Action, Applicants previously argued that increasing the functionality of a data processing system does not increase the performance level of a data processing system because it does not increase the magnitude of a quantity, for example, processing speed. The Examiner stated that in Campbell, there is a quantity of functionality, and adding functionality increases the performance level. The Examiner acknowledged that if the claims specified increasing the processing performance level, the Examiner would agree, but "the performance level of a processing system" is not limited to the processing performance level of a data processing system (Emphasis Added).

In accordance with the Examiner's remarks, claim 1 has been amended to recite "increasing the processing performance level of the data processing system" Clearly, Campbell does not suggest "increasing the processing performance level of the data processing system in accordance with the second authorization key without having to reboot the data processing system", as recited in claim 1. In view of the foregoing, claim 1 is believed to be clearly patentable over Campbell. For similar reasons, as well as other reasons, dependent claims 2-5 are also believed to be clearly patentable over Campbell et al.

Turning now to claim 6, which recites:

6. (Currently Amended) A method for selectively changing the processing performance of a data processing system, wherein the data processing system includes one or more processors that can selectively

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operate at a processing performance level that is below a maximum processing performance level of the processor, the method comprising:
providing an authorization key to the data processing system,
wherein the authorization key specifies a new processing performance level for at least one of the processors; and
increasing the processing performance level of at least one processor to the new processing performance level without having to reboot the data processing system.

For similar reasons to those discussed above with respect to claim 1, as well as other reasons, claim 6 is believed to be clearly patentable over Campbell et al. For similar and other reasons, dependent claims 7-23 are also believed to be clearly patentable over Campbell et al.

Now turning to claim 24, which recites:

24. (Currently Amended) A method for selectively changing the performance of a data processing system, wherein the data processing system includes two or more processors and an original limit is placed on the number of processors that are available for use, the method comprising:
providing an authorization key to the data processing system, wherein the authorization key specifies a new limit on the number of processors that are available for use; and
increasing the performance level of the data processing system by activating one or more of the processors that were previously unavailable for use without having to reboot before a next time the data processing system is powered-up.

For similar reasons to those given above with respect to claim 1, as well as other reasons, claim 24 is believed to be clearly patentable over Campbell et al. For similar and other reasons, dependent claims 25-40 are also believed to be clearly patentable over Campbell et al.

Turning specifically to claim 33, and as detailed above, Campbell et al. do not disclose or suggest performing the providing and increasing steps while the data processing system is in use. As noted above, Campbell et al. appear to teach to change the "functional

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characteristics” of the data processing system upon power up of the data processing system (e.g. reboot), which by definition, cannot be “while the data processing system is in use”.

Specifically with respect to claim 35, Campbell et al. do not appear to teach or suggest using the operating system of the data processing system to activate one or more processors.

With respect to claim 36, Campbell et al. do not appear to teach or suggest a data processing system wherein the operating system maintains a table that includes entries that identify the processors in the data processing system, and further identify which processors are available for use. With respect to claim 37, Campbell et al. do not appear to teach or suggest changing selected entries in the table to indicate that one or more of the processors that were previously unavailable for use are now available for use. With respect to claim 38, Campbell et al. do not appear to teach or suggest an operating system that detects the changes to the table, and activates the processors that are indicated as available for use that were previously unavailable for use. With respect to claim 39, Campbell et al. do not appear to teach or suggest changing selected entries in a table so that selected processors that are available for use are de-activated and become unavailable for use to return to the original limit of the number of processors that are available for use. Finally, and specifically with respect to claim 40, Campbell et al. do not appear to teach or suggest an operating system that detects the changes to the table, and de-activates the processors that are indicated as unavailable for use.

As such, and for these additional reasons, claims 25-40 are believed to be clearly patentable over Campbell et al. If the Examiner elects to maintain these rejections,

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Applicants respectfully request that the Examiner specifically point out where in Campbell et al. each and every one of these elements is shown.

In paragraph 6 of the Office Action, the Examiner rejected claims 1-23 under 35 U.S.C. § 102(a) as being anticipated by Fenstermaker et al. (U.S. Patent No. 6,490,684). As noted above, claim 1, as amended, recites:

1. (Currently Amended) A method for selectively increasing the performance of a customer's data processing system, wherein the data processing system has a maximum processing performance level, the method comprising:
 - providing a first authorization key to the data processing system, the first authorization key allowing an initial processing performance level that is less than the maximum processing performance level of the data processing system;
 - receiving a request from the customer for an increase in processing performance level of the data processing system;
 - providing a second authorization key to increase the processing performance level of the data processing system above the initial processing performance level; and
 - increasing the processing performance level of the data processing system in accordance with the second authorization key without having to reboot before a next time the data processing system is powered up.

As can be seen, claim 1 recites that the processing performance level of the data processing system is increased. In contrast to the foregoing, Fenstermaker et al. appears to relate to changing the functionality (and not the processing performance level) of an ultrasound imaging system.

Fenstermaker et al. state:

By way of introduction, in the preferred embodiments described below, an ultrasound device is installed with features that are not immediately available for use (i.e., the features are installed disabled). To enable these features, a key is locally or remotely supplied to the ultrasound device on demand. With this functionality, a user can evaluate a feature on a trial basis. After becoming familiar with the feature, the user can decide to purchase the feature for permanent use. Additionally, because the necessary hardware is factory-installed in and shipped with the ultrasound device, a user who desires the temporary or permanent use of a hardware feature can

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enable the feature simply by receiving the enabling key on demand without taking the ultrasound device off-line.

(Emphasis Added)(Fenstermaker et al., column 1, lines 37-50). Fenstermaker et al. define a feature as "a function of an ultrasound device" (Emphasis Added)(Fenstermaker et al., column 2, lines 12-13). Fenstermaker et al. further state:

A feature can be implemented with hardware, software, or a combination of hardware and software. For example, on an ultrasound imaging system, a hardware feature can be a use of a particular transducer, a software feature can be harmonic imaging, and a combination of hardware and software features can be the use of harmonic imaging with a particular transducer.

(Fenstermaker et al., column 14-19). Therefore, and as can readily be seen, Fenstermaker et al. relates to changing the functionality of an ultrasound imaging system, and not the processing performance level of a data processing system, as recited in claim 1. Adding the use of an additional transducer or a software function such as harmonic imaging does not increase the processing performance level of a data processing system, as recited in claim 1. There does not appear to be anything in Fenstermaker et al. that suggests the step of increasing the processing performance level of a data processing system, as recited in claim 1.

Applicants believe there is a big difference between enabling the use of a particular transducer or an additional software routine in an ultrasound machine versus increasing the processing performance level of a data processing system, such as by increasing the operating speed, number of processors, memory, etc. that are available to the operating system. It is a completely different problem to change the processing performance level of a data processing system, particularly while the data processing is in use (e.g. without having to reboot the data processing system). As noted above, Fenstermaker et al. does not

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appear to teach or suggest anything that relates to increasing the processing performance level of a data processing system, and thus the relevance of Fenstemaker et al. is suspect.

In view of the foregoing, claim 1 is believed to be clearly patentable over Fenstemaker et al. For similar reasons, as well as other reasons, dependent claims 2-5 are also believed to be clearly patentable over Fenstemaker et al.

Turning now to claim 6, which recites:

6. (Currently Amended) A method for selectively changing the processing performance of a data processing system, wherein the data processing system includes one or more processors that can selectively operate at a processing performance level that is below a maximum processing performance level of the processor, the method comprising:
providing an authorization key to the data processing system, wherein the authorization key specifies a new processing performance level for at least one of the processors; and
increasing the processing performance level of at least one processor to the new processing performance level without having to reboot the data processing system.

As can be seen, claim 6 recites the step of increasing the processing performance level of at least one processor to the new performance level without having to reboot the data processing system. For similar reasons to those given above with respect to claim 1, as well as other reasons, claim 6 is believed to be clearly patentable over Fenstemaker et al. For similar and other reasons, dependent claims 7-23 are also believed to be clearly patentable over Fenstemaker et al.

In paragraph 8 of the Office Action, the Examiner rejected claims 24-40 under 35 U.S.C. § 103(a) as being unpatentable over Campbell in view of Fenstemaker et al. The Examiner states that Fenstemaker et al. disclose a method to increase the performance of a processing system, but does not mention controlling the number of active processors. However, the Examiner states that Campbell discloses a method to increase the

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performance of a processing system by controlling the number of active processors. The Examiner concludes that it would have been obvious to one of ordinary skill in the art to increase the number of processors in Fenstermaker's system to allow for further profitability and control.

Claim 24 recites:

24. (Currently Amended) A method for selectively changing the performance of a data processing system, wherein the data processing system includes two or more processors and an original limit is placed on the number of processors that are available for use, the method comprising:
providing an authorization key to the data processing system, wherein the authorization key specifies a new limit on the number of processors that are available for use; and
increasing the performance level of the data processing system by activating one or more of the processors that were previously unavailable for use without having to reboot before a next time the data processing system is powered up.

As noted above, claim 24 recites the step of increasing the performance level of the data processing system by activating one or more of the processors that were previously unavailable for use without having to reboot the data processing system. The present specification teaches that the performance level of the customer's data processing system can be changed while operating at full production capacity, and that such a system may help provide uninterrupted growth capacity, temporary increased processing capacity to support high demand peak periods, and disaster recovery support should a primary data processing system become destroyed.

In contrast with the foregoing, Campbell et al. states:

Upon reference to the foregoing those skilled in the art will appreciate that by providing selected "personality" data within nonvolatile storage devices within a data processing system and accessing that data each time power is applied to the data processing system, the content of a personality register may be controlled which may then be utilized to enable and/or disable various functional characteristics of the data processing

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system, permitting the manufacturer to provide a variety of functional characteristic capabilities within a single data processing system, without physical or mechanical manipulation.

(Emphasis Added)(Campbell et al., column 9, lines 54-65). As can be seen, Campbell et al. appear to teach that the "functional characteristics" of the data processing system are only changed upon power up of the data processing system (e.g. reboot). Such a system, however, may not provide many of the advantages of the present invention - such as providing uninterrupted growth capacity, temporary increased processing capacity to support high demand peak periods, and disaster recovery support should a primary data processing system become destroyed - at least not to the same degree as the present invention. In addition, Campbell et al. do not appear to disclose or suggest any way to increase the performance level of the data processing system by activating one or more of the processors that were previously unavailable for use without having to reboot the data processing system, as recited in claim 24.

Fenstermaker et al. do not appear to add anything in this regard. As noted above, there is a big difference between enabling the use of a particular transducer or an additional software routine in an ultrasound machine versus increasing the performance level of a data processing system - such as by activating one or more of the processors that were previously unavailable for use. Fenstermaker et al. do not appear to teach or suggest anything that relates to increasing the performance level of a data processing system - such as by activating one or more of the processors that were previously unavailable for use.

Moreover, there does not appear to be any motivation to make the combination of Campbell et al. and Fenstermaker et al., as the Examiner suggests. The Examiner states that it would have been obvious to one of ordinary skill in the art to increase the number of

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processors in Fenstemaker's system to allow for further profitability and control. However, there does not appear to be any need to increase the number of processors in Fenstemaker et al. In addition, even if Campbell and Fenstemaker et al. were combined as the Examiner suggests, the changes to the data processing system would only take place each time power is applied to the data processing system (e.g. reboot), as taught by Campbell. In view of the foregoing, claim 24 is believed to be clearly patentable over Campbell et al. in view of Fenstemaker et al. For similar reasons, as well as other reasons, dependent claims 25-26 and 33-40 are also believed to be clearly patentable over Campbell et al. in view of Fenstemaker et al.

Specifically with respect to claim 33, and as detailed above, Campbell et al. do not disclose or suggest performing the providing and increasing steps while the data processing system is in use. As noted above, Campbell et al. appear to teach changing the "functional characteristics" of the data processing system upon power up of the data processing system, which by definition, cannot be "while the data processing system is in use". Fenstemaker et al. does not appear to add anything in this regard.

Specifically with respect to claim 35, Campbell et al. do not appear to teach or suggest using the operating system of the data processing system to activate one or more processors. Again, Fenstemaker et al. does not appear to add anything in this regard.

With respect to claim 36, Campbell et al. do not appear to teach or suggest a data processing system wherein the operating system maintains a table that includes entries that identify the processors in the data processing system, and further identify which processors are available for use. Likewise, and with respect to claim 37, Campbell et al. do not appear to teach or suggest changing selected entries in the table to indicate that one or more of the

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processors that were previously unavailable for use are now available for use. With respect to claim 38, Campbell et al. do not appear to teach or suggest an operating system that detects the changes to the table, and activates the processors that are indicated as available for use that were previously unavailable for use. Further, and with respect to claim 39, Campbell et al. do not appear to teach or suggest changing selected entries in a table so that selected processors that are available for use are de-activated and become unavailable for use to return to the original limit of the number of processors that are available for use. Finally, with respect to claim 40, Campbell et al. do not appear to teach or suggest an operating system that detects the changes to the table, and de-activates the processors that are indicated as unavailable for use.

In all of these cases, Fenstermaker et al. do not appear to teach or suggest what Campbell et al. lacks. Thus, for these additional reasons, as well as other reasons, claims 33-40 are all believed to be clearly patentable over Campbell et al. in view of Fenstermaker et al. If the Examiner elects to maintain these rejections, Applicants respectfully request that the Examiner specifically point out where in Campbell et al. or Fenstermaker et al. each and every one of these elements is shown.

In paragraph 19 of the Office Action, the Examiner rejected claims 27-32 under 35 U.S.C. § 103(a) as being unpatentable over Fenstermaker in view of Campbell. For similar reasons to those given above, as well as other reasons, claims 27-32 are believed to be clearly patentable over Fenstermaker in view of Campbell.

In view of the foregoing, Applicants believe that all pending claims 1-40 are in condition for allowance. Reexamination and reconsideration are respectfully requested. If the Examiner believes it would be beneficial to discuss the application or its examination in

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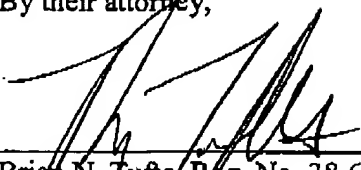
any way, please call the Applicant at (612) 359-9348.

Respectfully submitted,

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By their attorney,

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